CASE REPORT

BALLOON-OCCLUDED RETROGRADE TRANSVENOUS OCCLUSION IS AN OPTION IN MANAGEMENT OF ECTOPIC VARICES IN SMALL BOWEL

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Small bowel varices are rare complications of portal hypertension. TIPS is the main option with hepatic encephalopathy as biggest concern. BRTO is a suitable alternative. The major difference is increasing portal pressures instead, leading to risks of oesophageal variceal bleeding and ascites worsening consequently. We present an elderly patient with GI bleed due to varices in the jejunum picked up on VCE. His age and anatomy of vessels lead to use of BRTO instead of initially proposed TIPS procedure as therapeutic option.

Keywords: Cirrhosis, BRTO; Coil embolization; Small bowel varices; Gastrointestinal bleeding

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CASE REPORT

Eighty-three years gentleman, with alcohol related cirrhosis and portal hypertension, presented with melena. His HB had dropped to 50. His OGD showed mild GAVE and Grade 1 varix.

CT angiogram revealed multiple enlarged varices in the abdomen with no active site of haemorrhage identified. Video capsule endoscopy (VCE) was performed due to continuing dropping HB, which showed varices in mid small bowel with distinct red lesion and fresh blood which were the likely source of bleeding. The patient was transferred to tertiary hospital for consideration of trans-jugular intrahepatic porto-systemic shunting.

An MDT discussion between interventional radiology and hepatology concluded that anatomically, the varix was located further to the reach for conventional TIPSS and in view of the anatomical distance, as well as risk of encephalopathy, BRTO would be more appropriate. He underwent this procedure which involved an ultrasound-guided trans-splenic access via the superior mesenteric vein. Outflow was embolised with multiple coils. Glubran and Lipiodol was injected to block inflow. Glubran®2 (GEM SRL, Viareggio, Italy) is a well-known surgical glue in which N-butyl-2-cyanoacrylate (NBCA) is combined with another monomer, metacryloxysulfolane, to produce a more pliable polymer in which there is less histotoxicity and inflammation compared to Histoacryl® and Trufill®

He had a gastroscopy following this procedure which reported Grade 1/2 varices (no red signs) and portal hypertensive gastropathy. He also had an EEG reporting diffuse slowing of cerebral rhythmic activity and a CT head on 28th September which did not show anything acutely.

Post-procedure, CT imaging confirmed new splenic vein occlusion due to thrombus with proximal propagation of portal vein thrombosis and an increase in the volume of ascites which was drained. He was not anticoagulated for portal vein thrombosis as the risks were thought to outweigh the benefits mainly because time was required for the small bowel varix to be fully dissipated. The liver unit have requested a gastroscopy locally to monitor and eradicate varices as BRTO can potentially accelerate variceal growth. OGD showed short grade 1 varices with lots of scarring from previous banding. GAVE as before and 2 Forrest iii duodenal ulcers. No gastric varices. He was started on Caevedilol. He remained without any further episodes of bleeding. Most importantly, there was no evidence of oesophageal varices or ascites on follow up.

Figure-1: VCE showing Jejunal varices with red spot

Figure-2: Jejunal varices

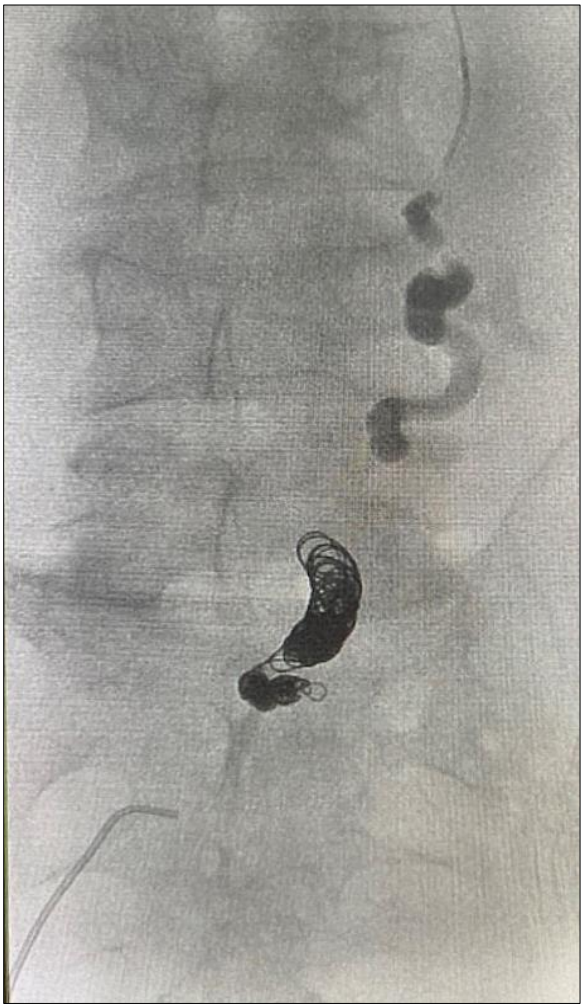

Figure-3: Coiling process in jejunal varix on this patient

Figure-4: Coiling process in jejunal varix on this patient

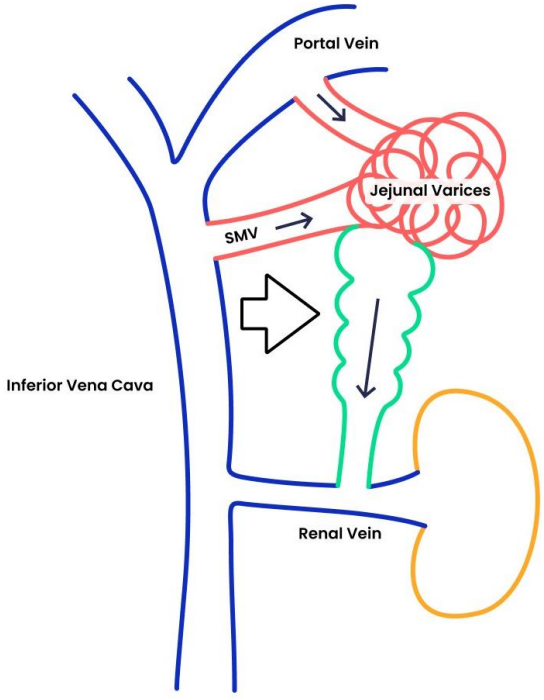

Figure-5: Diagram showing approach for balloon occlusion and coiling

DISCUSSION

Small bowel varices are rare and may be seen in less than 5% of patients with GI bleeding.[1] These can be caused by portal hypertension or mesenteric vessels thrombosis. The presence of previous bowel surgery is not mandatory but is one of the risk factors for small intestinal varices.[2]

Early diagnosis of small intestinal varices is very important, but this is not easy in most of the cases. CT scan is a useful technique to diagnose ectopic varices as well as evaluate cirrhosis and portal vein and ascites.[3] Management options include medical, surgical and transcatheter interventions. However, there are no established guidelines for the management of ectopic small bowel varices. Interventional radiology provides a less invasive option compared to surgery.

Trans jugular intrahepatic portosystemic shunt placement is another option for the treatment of ectopic varices.[4] The efficacy of this procedure must be balanced with encephalopathy and liver function. TIPS is a shunt made surgically or endovascularly, which can result in reducing the portal pressure, but may result in serious complications such as encephalopathy and/or hepatic insufficiency.

B-RTO is an embolization technique performed via the efferent vein and has been proven to be effective. Sato *et al*.[5] reported that B-RTO was an effective treatment for ileal varices. Balloon occluded retrograde transvenous obliteration (BRTO) can be done percutaneously as well.[6]

With the introduction of balloon-occluded retrograde transvenous obliteration (BRTO) in the 1980s,[7] there are now additional options of forcing sclerosant into the varices via the exit retrogradely, while occluding the outflow with a balloon. Because many variceal systems have multiple feeding and multiple draining pathways, combinations of anterograde and retrograde techniques are frequently useful.

The sclerosing substances used for BRTO are ethanolamine oleate, sodium tetradecyl sulphate, polidocanol foam, and N-butyl-2-cyanoacrylate NBCA.[8] However, to obliterate the varices with 5% ethanolamine oleate, the agent must remain within the varices for 4–24 hours.[8]

To sum up, jejunal variceal bleeding is a rare but life-threatening entity. It should be considered in patients with PHT and obscure bleeding even in absence of surgical history. The scarcisty of data related to the different treatment options makes it hard to make any conclusions or recommendations concerning their efficacy. When compared to the endoscopic approach, coil embolization seems to be a more available and less difficult treatment. Yet, more studies remain warranted to confirm its short- and long-term outcomes.[9]

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